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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/509,493

05/15/2000

NAOKI OKINO

Q58562

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7590

09/11/2003

SUGHRUE MION ZINN
MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE NW
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EXAMINER

KILKENNY, TODD J

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/509,493

Applicant(s)

OKINO ET AL.

Examiner

Todd J. Kilkenny

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 18 June 2003.

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 10-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 10-23 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 19 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s) _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

DETAILED ACTION

Response to Appeal

1. In view of the Appeal Brief filed on 6/18/03, PROSECUTION IS HEREBY REOPENED. New Grounds of Rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10 – 17, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todaka et al (US 5,807,588) in view of any one of Ichikawa et al (JP 59-85729) and Takizawa et al (US 5,861,182).

In U.S. patent 5,807,588, Todaka et al teach a controllable extrusion molding apparatus wherein a method for preparing a panel with a resinous frame is disclosed.

As to **independent claim 10** and the limitation reciting to extrude, not into a mold, a resinous material through a certain cross-sectional shape nozzle, Todaka et al disclose a nozzle fore end (4) which discharges the extrusion material onto a panel (14) with a certain cross sectional shape (Figure 2).

Todaka et al however teach a generic extrusion-molding machine failing to suggest an injection machine having a plunger.

Preplasticizing injection molding apparatus are considered well known in the art as evidenced for example by Ichikawa et al and Takizawa et al, wherein said preplasticizers are known to include plungers in the injection chambers. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a preplasticizing molding apparatus as the generically disclosed extrusion molding machine of Todaka et al, wherein such preplasticizing molding apparatus are known to include plunger injection means as evidenced by any one of Ichikawa et al and Takizawa et al, wherein one of ordinary skill in the art would have been motivated to employ such a molding apparatus as they are advantageous in providing evenly plasticized resin as suggested by Takizawa et al and/or protecting against resin leakage as suggested by Ichikawa et al. It is noted that claim 10, only requires a plunger injector so optionally, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ a plunger injection apparatus as the extrusion molding machine

of Todaka et al as plunger type molding equipment is considered conventional means for extruding simple long profiles such as bars and pipes.

As to **independent claim 11**, and the limitation of extruding a resinous material through a certain cross-sectional shape nozzle, Todaka et al disclose a nozzle fore end (4) which discharges the extrusion material onto a panel (14) with a certain cross sectional shape (Figure 2).

As to the limitation of supplying the resinous material through a hopper, Todaka et al disclose the extrusion molding apparatus to include an extruding molding machine (15), which is loaded with an extrusion material via hopper (see element 16 of Figure 1).

Todaka et al fail to positively suggest feeding, with a metering screw, a certain amount of the supplied resinous material into a plunger chamber and injecting with the plunger the resinous material so as to be extrude the resinous material through the nozzle of the die.

Again, as evidenced by Takizawa et al and Ichikawa et al, preplasticizing type injection apparatuses are known and are suggested as advantageous over conventional in-line screw type injection apparatus. Preplasticizing type injection apparatus are further known in the art to comprise an injection cylinder provided with an injection plunger and a plasticizing cylinder provided with a plasticizing screw.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a preplasticizing type injection apparatus comprising a screw extruder plasticizer, which feeds resin to a plunger chamber, and a plunger to extrude the resin through a nozzle as the generic extrusion molding machine of Todaka et al as

such preplasticizing type injection apparatuses are well known in the injection molding art as evidenced by any one of Ichikawa et al and Takizawa et al, wherein one of ordinary skill in the art would have been motivated to employ such a preplasticizing extruder for the advantage of achieving evenly plasticized resin (Takizawa et al; Col. 1, lines 46 – 61) and/or protecting against leakage from the nozzle (Ichikawa et al).

As to **independent claim 14**, as to the limitations reciting to extrude through a certain cross-sectional shape nozzle, while relatively moving a die and a peripheral edge of a panel, so as to form the extruded resinous material on the peripheral edge of the panel to have the cross-sectional shape conforming to the shape of the nozzle, Todaka et al teach a nozzle fore end (4) which discharges the extrusion material onto a panel (14) with a certain cross sectional shape (Figure 2) wherein the panel is moved with respect to the nozzle (Figures 3A and 3B).

As to the limitation of supplying through a hopper, the extrusion molding apparatus of Todaka et al includes an extrusion-molding machine (15), which is loaded with an extrusion material via hopper (see element 16 of Figure 1).

As to controlling the injection amount of the resinous material in response to a relative moving speed between a peripheral edge of the panel and the die, Todaka et al teach controlling the injection amount of material in response to a relative moving speed of the panel and nozzle (Col. 5, lines 3 – 10; Col. 6, lines 45 – 52).

Todaka et al fail to positively suggest feeding, with a metering screw, a certain amount of the supplied resinous material into a plunger chamber and injecting with the plunger the resinous material so as to be extruded onto the panel.

Again, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a preplasticizing type injection apparatus comprising a screw extruder plasticizer, which feeds resin to a plunger chamber, and a plunger to extrude the resin through a nozzle as the generic extrusion molding machine of Todaka et al as such preplasticizing type injection apparatuses are well known in the injection molding art as evidenced for example by any one of Ichikawa et al and Takizawa et al and are considered to be advantageous particularly in terms of achieving evenly plasticizing resin as disclosed by Takizawa et al (Col. 1, lines 46 – 61) and protecting against unwanted resin leakage from the nozzle.

As to **claims 12, 13 and 15**, in teaching to control the resin extrusion amount in connection with the workpiece travel speed, Todaka et al disclose controlling the extruding pressure by controlling the extruder's actuator with respect to the resin pressure, which is monitored at the nozzle.

As to **claims 16 and 17**, in controlling the injection amount with respect to the workpiece travel speed, Todaka et al disclose reducing the speed of the panel around its corners and in connection therewith, reducing the speed of the molding apparatus's actuator which in turn decreases the amount of resin supplied through the nozzle as the pressure of the extruder is directly proportional to the speed of the workpiece (Col. 7, line 55 – Col. 10 line 10).

As to **claims 22 and 23**, Todaka et al disclose extruding a resin frame onto a panel.

4. Claims 18 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 5,795,421) in view of Todaka et al (US 5,807,588) and any one of Ichikawa et al (JP59-85729) and Takizawa et al (US 5,861,182).

Takahashi et al disclose a method for preparing a panel with a resinous frame wherein a shaped resin product is extruded through a shaping die (14) in a predetermined shape, pulled into a pressing member (20) and pressed so as to be unified to a panel (22), thereby obtaining a panel with a resinous frame (Figure 1, abstract). Takahashi et al fail to suggest controlling the injection amount of resin in response to the relative moving between the panel and die. Furthermore, Takahashi et al appear to define extruding the resin using a generic extruder (12) failing to suggest the type or components of the extruder (12).

As to controlling the injection amount, Todaka et al is cited as teaching to control the injection amount of material in response to a relative moving speed of the panel and nozzle (Col. 5, lines 3 – 10; Col. 6, lines 45 – 52). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide control means in Takahashi et al to so as control the amount of resin extruded onto the panel in response to the panel travel speed such that even when the panel travel speed at the corner portions is different from the panel travel speed at the rectilinear portions, an effect of suppressing variations in cross-sectional shape can be maintained.

As to a preplasticizing extruder comprising a screw extruder and plunger, such extruders are considered to be well known in the art as evidenced for example by any one of Takizawa et al and Ichikawa et al and therefore it would have been obvious to

one of ordinary skill in the art at the time of the invention to employ such a preplasticizing injection apparatus as the extruder of Takahashi et al. One of ordinary skill in the art would have been motivated to look to the art to find types of extruders to use in view of Takahashi et al merely reciting an extruder, wherein as suggested by Takizawa et al, preplasticizing apparatus comprising a screw extruder plasticizing region and a plunger pressurized injection cylinder are advantageous in terms of evenly plasticizing resin and/or as suggested by Ichikawa et al, plungers protect against resin leakage from the nozzle as compared to screw extruders.

As to **claim 19**, in teaching to control the resin extrusion amount in connection with the workpiece travel speed, Todaka et al disclose controlling the extruding pressure by controlling the extruder's actuator with respect to the resin pressure, which is monitored at the nozzle.

As to **claims 20 and 21**, in controlling the injection amount with respect to the workpiece travel speed, Todaka et al disclose reducing the speed of the panel around its corners and in connection therewith, reducing the speed of the molding apparatus's actuator which in turn decreases the amount of resin supplied through the nozzle as the pressure of the extruder is directly proportional to the speed of the workpiece (Col. 7, line 55 – Col. 10 line 10).

Response to Arguments

5. Applicant's arguments filed 6-18-03 have been fully considered but they are not persuasive. Both Todaka et al (US 5,807,588) and Takahashi et al (US 5,795,421)

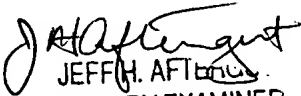
disclose methods of extruding resinous frames for panels, wherein Todaka et al further teach controlling the rate of resin extruded in response to the rate of relative movement between the panel and the die. Both Todaka et al and Takahashi et al generically suggest extruders or extrusion molding apparatus and only in an exemplary instance does Todaka et al suggest a screw extruder. The secondary references to Ichikawa et al and Takizawa et al are exemplary evidence of well known preplasticizing extrusion molding apparatuses, which comprise a screw extruder in a plasticizing chamber connected to a plunger injection chamber. Takizawa et al disclose said known preplasticizing extrusion apparatuses are advantageous over conventional screw extruders for providing more evenly plasticized resin. Furthermore, Ichikawa et al as agreed by the applicant teaches using a plunger to sufficiently knead a resin "without causing leakage or the inflow of the resin into a mold." Applicant contends that because Ichikawa et al states this benefit in connection with injecting into a mold such is not motivation to incorporate a plunger with Takahashi et al or Todaka et al as neither injects into the mold. The examiner disagrees. One of ordinary skill in the art would readily appreciate the notion of protecting against resin leakage would have been beneficial not only if injecting into a mold but also if injecting into a presser member or directly onto a workpiece, as whether it be a presser, a workpiece or a mold, uncontrolled resin discharge would be appreciated as undesirable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Todd J. Kilkenny** whose telephone number is **(703) 305-6386**. The examiner can normally be reached on Mon - Fri (9 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


JEFF H. AFTON
PRIMARY EXAMINER
GROUP 1300

TJK